

AMENDED CLAIMS

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original claims 1-36 replaced by new claims 1-38 (7 pages)]

CLAIMS

- 1) Method for initiating, receiving, controlling and managing different types of synchronous and asynchronous communications over LAN, WAN and Internet networks, comprising the steps of:
 - providing Communications Devices and/or Terminals for permitting one or more users to transmit and receive telephone calls, video communications, chat communications (named as synchronous communications), facsimile transmissions, SMS and/or MMS messages, e-mail messages, (named as asynchronous communications) and multimedia synchronous and asynchronous communications;
 - providing Network Servers (27) and Local Area Network (LAN) infrastructures for transporting data and all the communications between the said Communications Devices and/or Terminals;wherein all the inbound and outbound communications are initiated, received, controlled and managed by using an Internet Web Browser, said operations being performed without using any traditional telephone switchboard or exchange system (PBX, PABX, IPPBX).
- 2) Method as claimed in claim 1, wherein all said inbound and outbound communications are initiated, received, controlled and managed employing only one central processor or Network Server (27) of a single Local Area Network LAN(1).
- 3) Method as claimed in claims 1 or 2, wherein said inbound and outbound communications include both interactive (or synchronous) communications and non interactive (or asynchronous) communications.
- 4) Method as claimed in claims 1 or 2, wherein all said inbound and outbound communications, are initiated, received, controlled and managed either individually and/or by mixing two or more simultaneous communications.
- 5) Method as claimed in claims 1 or 2, wherein all said inbound and outbound communications are initiated, received, controlled and managed, even mixing different types of all said communications.
- 6) Method as claimed in claims 1 or 2, wherein all said inbound and outbound communications include the communications from Communications Devices (2, 3, 4, 5, 7, 8, 10) and/or stand alone Terminal devices situated in remote locations (12), or devices associated (29) with other remote LANs (13), said Communications Devices or Terminals (12, 29) being connected, through digital networks, including the Internet (11), to the Local Area Network LAN (1) to which said central electronic processor or Network Server (27) is associated, said remote Communications Devices and/or Terminals (12, 29) interacting through said central processor or Network Server (27), both amongst themselves and with the Communications Devices and/or Terminals (2, 3, 4, 5, 7, 8, 10) connected to said Local Area Network LAN (1).
- 7) Method as claimed in claims 1 or 2, wherein all said inbound and outbound communications are effected, through direct and/or indirect connections, between said central processor or Network Server (27) and the communications terminals of public and private communications networks for wired telecommunications and videocommunications (26) as well as the communications networks for wireless telecommunications or videocommunications (24) and satellite networks.
- 8) Method as claimed in claims 1 or 2, wherein all said inbound and outbound communications are effected between the Communications Devices and

- Terminals (2, 3, 4, 5, 7, 8, 10, 12, 29, 28), connected to said LAN (1) or to remote LANs (13) and/or the Internet (11) or satellite networks, and the communications terminals of the users of said public and private communications networks for wired telecommunications and videocommunications (26) as well as the communications networks for wireless telecommunications or videocommunications (24).
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- 9) Method as claimed in claims 1 or 2, wherein each communication channel (16, 17, 18, 19, 20, 21, 22) of all said inbound and outbound communications is activated, controlled and managed by using a single software programme equipped with a single central software nucleus (15) (KERNEL) installed on said single central processor or Network Server (27), and by using Browser interactive graphic interfaces (30) enabled by a section (14) (Web Services) of said central processor or network server (27) and displayed on the visual display panels of the Communications Devices or Terminals (2, 3, 4, 5, 7, 8, 10, 12, 29, 28) connected to said Local Computer Networks LANs (1, 13), satellite networks, the Internet (11) or other networks.
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- 10) Method as claimed in claims 1 or 2, wherein the operating functions for the management of different types of communications and the display of data pertaining to the caller and the party called, as well as other data pertaining to the said ongoing communications (38), are activated through access to specific sections of a Database (23) by using an Internet Web Browser, said Web Browser comprising at least one graphic toolbar (30) featuring two distinct groups of interactive icons (31, 32).
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- 11) Method as claimed in claim 1, wherein all said inbound and outbound communications are activated, controlled and managed by using an Internet Web Browser and employing standard Communications Devices and/or Terminals (2, 3, 4, 5, 7, 8, 10, 12, 29), normally used by users, including Personal Computers and/or standard telephones, without using any specific communications equipment custom-designed to support said functions of activating, receiving, controlling and managing different types of communications.
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- 12) Method as claimed in claim 1, wherein all said inbound and outbound communications are effected among Communications Devices, Terminals, and Personal Computers connected to LANs (1, 13), to the Internet (11), to satellite networks, or to other networks, regardless of the type of OPERATING SYSTEM used to drive said Devices, Terminals and Personal Computers.
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- 13) Method as claimed in claim 1, further comprising the step of logging and storing in a single DATABASE (23) all the data pertaining to all the communications effected through any Communications Device and/or Terminal (2, 3, 4, 5, 7, 8, 10, 12, 29, 28) connected to and/or interacting with said LAN (1) or group of LANs (1, 13), or satellite network, or other networks.
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- 14) Method as claimed in claim 1, comprising the step of routing each call only after the system has automatically searched for and selected the cheapest communications network available for each type of communication placed from Communications Devices and/or Terminals (2, 3, 4, 5, 7, 8, 10, 12, 29, 28) connected to LANs (1, 13) to Communications Devices and/or Terminals connected to the same LANs or to other public or private wired (26) or wireless (24) telecommunications or videocommunications networks, or satellite or other types of networks.
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- 15) Method as claimed in claim 1, comprising the step of searching and selecting automatically the cheapest communications network (49, 50, 51) when the calls
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placed from Communications Devices or Terminals (40, 41, 43, 44, 53, 54, 58, 60) connected to LANs (48, 61) that are part of the in-house communications infrastructure of a same corporate group or company, are addressed to the party called using this same method and belonging to a specific wired or wireless telephony or videophony number grouping.

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- 16) Method as claimed in previous claims, comprising the step of searching and selecting automatically the cheapest communication network (49, 50, 51) when the calls placed from the Communications Devices or Terminals (40, 41, 43, 44) connected to the LAN (48), and addressed to the Communication Devices or
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- Terminals (53, 54, 58, 60), connected to a LAN (61) that does not belong to the communications infrastructure of a same group or corporation, in the case where the parties called use the same method and belong to a specific wired or wireless telephony or videophone number grouping, are managed and addressed to the party called, by an Internet Service Provider or Third Party (52) entrusted with the task of discriminating access, and as a result, of enabling connections only
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- between authorised numbers, so as to ensure secure access to the LAN and to the called Communications Devices and/or Terminals (53, 54, 58, 60), belonging to said specific number grouping, through authentication upon the initiation of the call.
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- 17) Method as claimed in previous claims wherein all said types of communications to and from the communications terminals connected to public and private communications networks for wired (26) and wireless (24) telecommunications and videocommunications, satellite or other networks, are initiated, received, controlled and managed, through the use of an Internet Web Browser installed
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- on the Communications Devices and Terminals that may be either stand alone (12) or connected (29) to LANs (13) situated in remote locations and in any event connected through digital networks or the Internet, to the Local Area Network LAN (1) that incorporates said central processor or Network Server (27).
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- 18) Method as claimed in the previous claim, wherein all said types of communications are initiated, received, controlled and managed, even between Communications Devices and/or Terminals situated in remote locations either stand-alone (12) or connected (29) to LANs (13) situated in remote locations, themselves connected to the LAN (1) that incorporates said central processor or
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- Network Server (27), through digital networks or the Internet.
- 19) Method as claimed in previous claims, wherein, an Internet Web Browser incorporating one or more Toolbars (30) is used to initiate, receive, control and manage all said types of communications from any Communications Device or Terminal (40, 41, 43, 44) connected to the LAN (48) and equipped or associated
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- with a visual display panel, with one or more simultaneous outbound calls (37) being sent automatically or manually by the caller (40, 41, 43, 44) over various telecommunications and/or videocommunications networks (49, 50, 51) so as to reach the party called (53, 54, 58, 60) connected to another LAN (61), such called party being able to use the method and the Internet Web Browser incorporating one or more Toolbars (30) to initiate, receive, monitor and
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- manage one or more simultaneous telecommunication and/or videocommunication calls (39).
- 20) Apparatus for initiating, receiving, controlling and managing different types of synchronous and asynchronous communications over LAN, WAN and Internet
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- networks among Communications Devices and/or Terminals permitting one or

more users to transmit and receive telephone calls, video communications, chat communications (named as synchronous communications), facsimile transmissions, SMS and/or MMS messages, e-mail messages, (named as asynchronous communications) and multimedia synchronous and asynchronous communications, said apparatus comprising a single central processor or Network Server (27) and a single type of Local Area Network LAN (1) infrastructure for transporting data and all the communications on the same LAN (1), without the need for any telephone switchboard or exchange system (PBX, PABX, IPPBX).

- 21) Apparatus as claimed in the preceding claim, wherein said central processor or Network Server (27) includes means for interacting, through direct and/or indirect connections, with public and private communications networks for wired (26) and wireless (24) telecommunications and videocommunications, and satellite networks, such central processor or Network Server (27) accordingly being capable of connecting with the communications terminals of the users of said networks (26, 24, etc.) as well as of connecting the latter with the Communications Devices and Terminals (2, 3, 4, 5, 7, 8, 10, 12, 29, 28) connected to LANs (1, 13), satellite networks or the Internet (11).
- 22) Apparatus as claimed in claims 20 or 21, wherein said central processor or Network Server (27) features a single installed software programme equipped with a "single software nucleus" known as the KERNEL (15) that enables the initiation, reception, control and management of each communications channel (16, 17, 18, 19, 20, 21, 22) of all said types of communications through the display of an Internet Web Browser incorporating a toolbar (30) that interacts with the Web Services section (14) of the apparatus.
- 23) Apparatus as claimed in claims 20 or 21, wherein an Internet Web Browser is used to display and/or make available the initiation, reception, control and management of said overall communications on standard Communications Devices and/or Terminals (2, 3, 4, 5, 7, 8, 10, 12, 29, 28) normally used by users, including Personal Computers and/or standard telephones, without using any specific communications equipment custom-designed to support the aforesaid functions of initiating, receiving, controlling and managing said overall communications.
- 24) Apparatus as claimed in claims 20 or 21, wherein said functions of initiating, receiving, controlling and managing all said types of communications are carried out by means of Personal Computers or other Devices connected to Local Area Networks LANs (1, 13), to the Internet, to satellite networks, or to other networks, regardless of the OPERATING SYSTEM used to drive said Devices, Terminals and Personal Computers.
- 25) Apparatus as claimed in claims 20 or 21, comprising a single DATABASE (23) in which all the data pertaining to all the communications effected through any Communications Device and/or Terminal (2, 3, 4, 5, 7, 8, 10, 12, 29, 28) connected to and/or interacting with said LAN (1) or group of LANs (1, 13), are logged and stored.
- 26) Apparatus as claimed in claims 20 or 21, wherein said central processor includes:
- logical-functional sections designed to support and manage all said types of communications;
 - at least one section for the storage, in a single centralised Database, of the settings associated with said devices as well as of the log of the historical data pertaining to the said communications.

- 27) Apparatus as claimed in the preceding claim, wherein said logical-functional sections are dedicated:
- to interfacing (16 – 22) said apparatus with the Communications Devices and/or Terminals connected to said local area network LAN (1), to wired and wireless telecommunications networks as well as to other computer networks, including the Internet;
 - to managing (15) said communications between the Communications Devices and/or Terminals connected to said local area network LAN (1) and between said Communications Devices and/or Terminals and the telecommunications networks and other computer networks;
 - to logging (23) the historical data pertaining to the communications managed by said apparatus;
 - to displaying (14) on the visual display panels of the Communications Devices and/or Terminals connected to the computer networks, the interactive graphic interfaces and to managing such interfaces so as to allow, using standard browser methodology, access to and the activation of the operating functions of said apparatus.
- 28) Apparatus as claimed in the preceding claim, wherein said managing section (15) supports communications amongst the various Communication devices and/or Terminals (2, 3, 4, 5, 7, 8, 10, 12, 29, 28) by retrieving from the storage section (23) the settings associated with each said Communications Device and/or Terminal (2, 3, 4, 5, 7, 8, 10, 12, 29, 28).
- 29) Apparatus as claimed in claims 20 or 27, wherein said Communications Devices and/or Terminals connected to the local area network LAN (1) include the following:
- a Personal Computer or Client Processor - device (2),
 - an IP Phone – Communications Terminal (3),
 - a Palmtop PDA Computer that may be fitted with a loudspeaker and microphone - device (4),
 - a Personal Computer or Client Processor fitted with headphones, a microphone and a webcam – device (5),
 - an Analogue/digital and Digital/analogue Adaptor for POTS analogue telephones – (6)
 - a POTS analogue phone – Communications Terminal (7),
 - a standard analogue fax machine – Communications Terminal (8),
 - a Router with or without a firewall (9),
 - a Communications Device and/or Terminal (10) enabling transmission and reception via satellite, connected to the LAN through the Router (9),
 - a Personal Computer or Client Processor, connected to the Internet, and fitted with headphones, a microphone and a webcam – device (12),
 - a telephone Device or Terminal (25) for the public wireless telecommunications network (GSM, UMTS, etc.) with ISDN, GSM, GPRS, etc., connections, and
 - a Communications Device and/or Terminal (10) enabling transmission and reception via satellite, connected by satellite to the Communications Device and/or Terminal.
- 30) Apparatus as claimed in claim 26, wherein said logical-functional sections (16-22) designed to interface said apparatus with equipment connected to the local computer network, wireless telephone devices, wired telephone devices and the Internet, include:

a section (16) that, in respect of telephone calls, acts as an interface between said apparatus and said local area network LAN (16a), the public PSTN telecommunications network (16b) and the public GSM/UMTS wireless network (16c);

5 a section (17) that, in respect of facsimile transmissions, acts as an interface between said apparatus and said local area network LAN (17d) as well as the public PSTN telecommunications network (17e);

a section (18) that, in respect of wireless telephone messages, acts as an interface between said apparatus and wireless telephone devices (18f) and the local area network LAN (18g);

10 a section (19) that, in respect of video and multimedia communications, acts as an interface between said apparatus and the local area network LAN (19l), the public PSTN telecommunications network (19h) and the public GSM/UMTS wireless network (19i);

15 a section (20) that, in respect of real time computer communications, acts as an interface between said apparatus and the local area network LAN (20m);

a section (21) that, in respect of e-mail communications, acts as an interface between said apparatus and the local area network LAN (21n);

20 a section (22) that acts as an interface between said apparatus and said local area network LAN, in respect of any and all types of communications other than those mentioned above.

31) Apparatus as claimed in claim 25, wherein the access to specific sections of said Database (23) and the activation of the operating functions of said apparatus as well as the display of the data pertaining to the called party and the caller, and other data pertaining to the call underway, are enabled through interacting with two distinct groups of icons (31, 32) that appear on the Internet Web Browser displaying a graphical toolbar (39).

32) Apparatus as claimed in claims 20 or 21, comprising means for routing each call only after the system has automatically searched for and selected the cheapest communications network available for each type of communication placed from Communications Devices and/or Terminals (2, 3, 4, 5, 7, 8, 10, 12, 29, 28) connected to LANs (1, 13) to Communications Devices and/or Terminals connected to the same LANs or to other public or private wired (26) or wireless (24) telecommunications or videocommunications networks, or satellite or other types of networks.

33) Apparatus as claimed in claims 20 or 21, comprising means for automatically searching and selecting the cheapest communications network (49, 50, 51) when the calls placed from Communications Devices or Terminals (40, 41, 43, 44, 53, 54, 58, 60) connected to LANs (48, 61) that are part of the in-house communications infrastructure of the same corporate group or company, are addressed to a party called that uses this same method and belongs to a specific wired or wireless telephony or videophone number grouping.

34) Apparatus as claimed in claim 32, comprising means for automatically searching and selecting the cheapest communication network (49, 50, 51) when the calls placed from the Communications Devices or Terminals (40, 41, 43, 44) connected to the LAN (48) and addressed to Communication Devices or Terminals (53, 54, 58, 60), connected to a LAN (61) that does not belong to the communications infrastructure of the same group or corporation, in the case where the parties called use the same method and belong to a specific wired or wireless telephone or videophone number grouping, are managed and addressed

to the party called by an Internet Service Provider or Third Party (52) entrusted with the task of discriminating access, and as a result, of enabling connections only between authorised numbers, so as to ensure secure access to the LAN and to the called Communications Devices and/or Terminals (53, 54, 58, 60), belonging to the said specific number grouping, through authentication upon the initiation of the call.

- 35) Apparatus as claimed in claims 20 or 21, comprising means for using an Internet Web Browser to enable, receive, control and manage all said types of communications to and from communications terminals connected to public and private communications networks for wired (26) and wireless (24) telecommunications and videocommunications, satellite or other networks, even through Communications Devices and Terminals that may be either stand alone (12) or connected (29) to LANs (13) situated in remote locations and in any event, connected through digital networks or the Internet to said Local Area Network LAN (1) that includes said central processor or Network Server (27).
- 36) Apparatus as claimed in claims 20 or 21, comprising means for initiating, receiving, controlling and managing all said types of communications even between Communications Devices and/or Terminals situated in remote locations, that may be either stand-alone (12) or connected (29) to LANs (13) situated in remote locations, themselves connected to said LAN (1) that includes said central processor or Network Server (27), through digital networks or the Internet.
- 37) Apparatus as claimed in claims 20 or 21, comprising means for using an Internet Web Browser incorporating one or more Toolbars (30), to enable, receive, monitor and manage communications from any Communications Device or Terminal (40, 41, 43, 44) connected to the LAN (48), equipped or associated with a visual display panel, with one or more simultaneous outbound calls (37) being sent automatically or manually by the caller (40, 41, 43, 44) over various telecommunications and/or videocommunications networks (49, 50, 51) so as to reach the party called (53, 54, 58, 60) connected to another LAN (61), such called party being able to use the above method and said Internet Web Browser including one or more Toolbars (30), to enable, receive, monitor and manage one or more simultaneous telecommunications and/or videocommunications calls (39).
- 38) Apparatus as claimed in any claims 20 or 21, wherein the operating functions accessed and activated from any Communications Device and/or Terminal using Internet Web Browser methodology include:
- in the case of telephone or video calls: the recording of the call, placing the caller on hold, redirecting the call to another terminal, the initiation of a conference call with several users, attribution to a cost centre, direct connection to a web-based database, enabling and managing multiple outbound and inbound calls simultaneously, automatic dialling of a number stored in the phone book, notice of calls received;
- in the case of facsimile transmission, SMS, MMS and e-mail messages: simultaneous and sequential sending to several users, attribution of the communication to a cost centre, notice of arrival of the message or facsimile transmission using a flashing icon, as well as the logging of the data pertaining to the communication.